

The Examiner correctly identifies that Brown discloses a fiber with mode field diameter of 8.4  $\mu\text{m}$ . The fiber disclosed is a transmission fiber for use in an optical communication system "that is served by Erbium-doped amplifiers". The Examiner recognizes that Brown fails to disclose gain fiber, but argues that it would have been obvious "to have considered the fiber of Brown to be a gain fiber".

As the Examiner will appreciate, transmission fibers and fibers for use in optical amplifiers have extremely different design requirements. For example, transmission fibers are typically designed for low loss (attenuation) over long distances (see Abstract of Brown) as well as low dispersion to reduce interference between different frequency components. Gain fibers are typically designed for low noise and efficient conversion of pump energy and for flat characteristics of gain to wavelength in the presence of a pump signal (see Imoto, col. 5, line 34). These requirements are very different, and it is not correct that a transmission fiber will be considered by one of ordinary skill in the art to be appropriate for use as a gain fiber within an optical amplifier.

The Examiner has correctly summarized Imoto, which again fails to disclose gain fiber with a mode field diameter greater than 10  $\mu\text{m}$ .

Hodges relates to bend resistant fibers, and relates specifically to fibers with mode field diameter less than 7  $\mu\text{m}$  (see abstract). The specific sentence referred to by the Examiner (Col. 1 lines 34 - 36) teaches that conventional telecommunication fibers typically have mode field diameters up to 11  $\mu\text{m}$ . This is in agreement with the recognition at page 2 lines 5 – 6 in the instant application.

Thus, Hodges simply confirms the statement in the instant application on page 2 lines 5 – 6, and again does not relate to gain fibers. It is therefore not clear how the disclosure of Hodges has affected the indication of allowable subject matter in the Office Action mailed 6 September 2002.

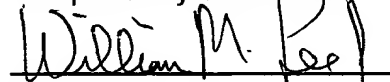
None of the prior art relied upon by the Examiner discloses or suggests the use of gain fiber with mode field diameter higher than 10  $\mu\text{m}$ . The claimed invention in the instant application also requires a specific single mode cut-off point, which has not been disclosed in the prior art relating to gain fibers.

There is no disclosure in Brown, Imoto or Hodges of a gain fiber with mode field diameter greater than 10  $\mu\text{m}$ , or indeed any motivation to depart from conventional gain fiber having a mode field diameter less than 9  $\mu\text{m}$ .

In view of the comments above and the arguments previously presented, it is submitted that this application is now in condition for allowance, and such action is therefore solicited.

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Respectfully submitted,



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